

## ABSTRACT

A start up circuit includes: a diode Q0; a first transistor  
5 Q1 coupled in series with the diode Q0; a first resistor R4  
coupled in series with the first transistor Q1; a second  
transistor Q2 having a control node coupled to a control node of  
the first transistor Q1 and coupled to a node between the first  
transistor Q1 and the first resistor R4; and a second resistor R2  
10 coupled in series with the second transistor Q2 such that a  
current in the second transistor Q2 is independent of a voltage  
applied across the diode Q0, the first transistor Q1, and the  
first resistor R4.

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